UNITED STATES PATENT AND TRADEMARK OFFICE

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UNITED STATES PATENT AND TRADEMARK OFFICE

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**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Application Number: 09/942,787
Filing Date: August 29, 2001
Appellant(s): SCANZANO ET AL.

D. Scott Moore
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed November 02, 2005 appealing from the

Office action mailed on May 31, 2005.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial

proceedings, which will directly affect or be directly affected by or have a bearing on the

Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection

contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is

correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

5,933,831   Jorgensen   8-1999

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-48 are rejected under 35 U.S.C. 102(b) as being anticipated by

Jorgensen (U.S. Patent No. 5,933,831).

As to claims 12, 14 and 40, Jorgensen discloses a computer system with

relational database management processing to provide multiple but exclusive

relationships between tables [e.g. see Abstract, Fig(s). 2-4], wherein, the system

comprising the followings as claimed by applicant:

a) a relating (or typed) table [e.g., table 200, Fig. 2] which have at lest one

attribute [e.g. the pop-up menu (226), Fig. 2] to provide a one-to-many relationship

between the related table and a corresponding foreign key [e.g., the foreign key icon

(206), Fig. 2; col. 3, lines 56-65 & col. 4, lines 4-6; Fig. 4];

b) a plurality of related tables [e.g., the set of hyperlinked tables being displayed

by the step 306, Fig. 3; col. 3, lines 27-32, lines 56-65; col. 4, lines 14-19];

c) means for selectively associating a type attribute (or a foreign key value) of a

record in the relating table with a specific one of the plurality of related tables based on

at least one attribute of the record containing the foreign key in the relating table so as

to provide multiple but exclusive relationships between tables in the relational database

[e.g., the entity relationship diagram produced by the foreign key icon & trigger

processing of Fig(s). 3A-3C; Fig. 4 and associated texts; Note: the primary key icon

represents an exclusive relationship between tables in the relation database because

the primary key is unique in nature. The foreign key icon links the displayed table to a

display of another table/tables in the entity relationship diagram containing the foreign

key (e.g., col. 2, lines 20-22), thus, the icons that including keys and constraints

represents multiple relationships between tables in the database.].

As to claims 13,17-18, 20-23, 41-42 and 44, the claimed limitations are default

properties of standard OO SQL processing. [e.g., an ordinary skill person in the art can

use the "Create Table" SQL to define foreign key association between a set of tables,

he/she also can use the "Create Type" SQL to define a plurality of types of foreign key

association. In addition, a user can enforce the multiple and exclusive relationship

between a set of tables via QQ SQL UDR (User Defined Routines or triggers).

Furthermore, a build-in "Select (value/values) From (table/tables) Where

(condition/conditions)" SQL can be used to select and identify (or obtain) records from a

set of desired tables of a database].

As to claims 15, 19 and 43, Jorgensen further discloses using trigger to enforce

association relationships between the set of foreign keys and related tables in a

database [e.g., see Fig. 3C].

As to claim 16, Jorgensen further discloses that the system use a defined type

(or hyperlink) to access the typed tables [e.g. see col. 3, lines 27-32].

As to claims 1-11, 24-39 and 45-48, these claims recite the same subject matters

as claims 12-23 and 40-44 in form of computer method and computer products. As

such, they are rejected for the same reason.

(10) Response to Argument

Applicant's arguments filed on November 02, 2005 have been fully considered

but they are not persuasive.

The examiner disagrees with appellant's piecemeal interpretation and arguments against the 35 U.S.C. § 102(b) rejections.

The Applicant's Invention:

A computer-implemented system and method are provided for defining multiple but exclusive relationships between tables in a relational database, wherein, a multiple but exclusive relationship is one where entries in a given table may have a one-to-many or a many-to-many relationship to entries in exactly one of several other tables as defined by applicant at page 8, lines 29-31 of instant specification.

Applicant's arguments of Section A mainly summarized as following:

1) Nothing in the cited portions of Jorgensen discloses or suggests the selective association of a foreign key in a relating table with a specific one of a plurality of related tables based on an attribute of the record containing the foreign key in the relating table as is recited in independent Claim 12. Similar recitations to those of Claim 12 are found in Claims 1 and 14.

In reply to arguments 1), the examiner directs appellant's attention to the following excerpts as disclosed by Jorgensen:

"Referring to FIG. 2, a pictorial representation of the display within a user interface for <u>a hyperlinked entity relationship diagram</u> in accordance with a preferred. embodiment of the present invention. Only so much of a hyperlinked display of <u>a relational database table</u> as is necessary to understand the present invention is illustrated."(col. 3, lines 18-23).
"<u>By using hyperlinks</u>, each table within the entity relationship diagram may be individually displayed on the display of a data processing system. <u>Icons indicate the relationship between tables of an entity relationship diagram, and also allow the user to "traverse" or move between tables by clicking on the icons.</u> "(col. 3, lines 18-32)

"Table 200 also contains a column 208 in which the name of the entities within the table are listed. A "Keys and Constraints" column 208 contains icons for each entity indicating the relationship of table 202 to other tables within the entity relationship diagram. For example, primary key icon 212 appears in the column which is the primary key for the table being displayed, signifying the table's primary key. Foreign column icon 214 contains an icon signifying a foreign key column of the table. When foreign key icon 214 is clicked, the parent table is displayed with the column of that table which is the foreign key highlighted. A combination of solid lines 216, dashed lines 218, dot terminators 220, and diamond terminators 222 associated with foreign key icon 214 indicate the nature of the relationship between the displayed table and the hyperlinked table in accordance with the conventional significance associated with such graphical features." (col. 3, lines 48-65)

"Constraint icon 224 indicates the existence of a constraint on the column containing this icon. Clicking on constraint icon 224 results in the display of another screen or a pop-up box where the details of the constraint are shown. Menu icon 226 is displayed when at least one child table exists for the displayed table 202. Clicking on menu icon 22[6] (Note: 6 is a typo, it should be 8) causes display of a pop-up menu containing all child tables which depend from displayed table 202. Table 202 may include additional columns, such as column 22[8] (note: 8 is mistyped as 6, it should be changed to 8 based on Fig. 2) indicating the data type for each entity in the relational database represented by the entity relationship diagram." (col. 3,lines 66 – col. 4, lines 9) .

"Although the exemplary embodiment is described and depicted as displaying only one table from an entity relationship diagram at a time, those skilled in the art will readily recognize that this is not a constraint to the present invention. In an alternative embodiment, multiple tables may be displayed in a scrollable window displaying a portion of the total entity relationship diagram, with the hyperlinked icons changing the focus of the active display window among different tables within the entity relationship diagram." (col. 4, lines 10-19)

The preceding text excerpts from Jorgensen clearly disclose the argued "the selective association of a foreign key in a relating table with a specific one of a plurality of related tables based on an attribute of the record containing the foreign key in the relating table". For example, the claimed relating table met by the relationship table 202 of Fig. 2, wherein, the relating table as displayed includes a plurality of selectable hyperlinked entries that is associated with a plurality of clickable primary key icon, foreign key icon, constraint icon, menu icon, etc. stored as attributes of the relation table

in a relational database that was used to define the claimed relationships between the

claimed tables of the relational database.

To be more specific, the claimed "the selective association of a foreign key in a

relating table" clearly met by the association of hyperlinked entries including selectable

primary key icon, foreign key icon, constraint icon, menu icon, etc. of the relating table

202 of Fig. 2. The claimed "the selective associations of a foreign key" met by the

associations embodied in the clickable objects of the "Keys and constraints column"

(e.g., 210, Fig. 2). In addition, the claimed "a specific one of a plurality of related tables

based on an attribute of the record containing the foreign key in the relating table"

clearly met by the description of Jorgensen's invention: "When foreign key icon 214 is

clicked, the parent table is displayed with the column of that table which is the foreign

key highlighted." (e.g., Johnson: col. 3, lines 57-59)

2) There is no indication that the parent / child relationship is established by a

foreign key and an attributes as is recited in Claims 1, 12 and 24.

In reply to spurious arguments 2), the examiner counters by pointing out that the

features upon which applicant relies (i.e., the parent / child relationship is established by

a foreign key and an attributes) are not recited in the rejected claim(s). Although the

claims are interpreted in light of the specification, limitations from the specification are

not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed.

Cir. 1993).

Furthermore, even the argued limitations are cited in the claims, these limitations

met by Jorgensen's disclosure as followings:

"*An entity relationship diagram for a relational database is generated from
introspection of the relational database to determine which entities should be
included within a specific table to be displayed. Tables within the entity relationship
diagram are displayed with icons hyperlinked to other portions or displays of the entity
relationship diagram... A primary key icon indicates which column of the displayed table
is utilized as the primary key for the displayed table, while a foreign key icon links the
displayed table to a display of another table in the entity relationship diagram containing
the foreign key. Dashed or dotted lines and dot or diamond terminators associated with
the foreign key icon described the relationship between the displayed table and the
linked table...*"(Abstract, lines 1-16)

Jorgensen further discloses:
"*Dot connection terminators 416, 418, and 420 identify the child table in a parent-
child table relationship, while diamond connection terminator 422 indicates that the
parent table may have a NULL in the identifying column for the child table.*" (col. 1, lines
37-43).
Therefore, in contrast to appellant's arguments, Jorgensen clearly discloses the
argued limitations.

3) There is no discussion in Jorgensen with respect to using a foreign key and an

attribute to provide a multiple but exclusive relationship as recited in Claims 1, 12, and

24.

In reply to spurious arguments 3), the examiner again noted that the features

upon which applicant relies (i.e., using a foreign key and an attribute to provide a

multiple but exclusive relationship) are not recited in the rejected claim(s). Although the

claims are interpreted in light of the specification, limitations from the specification are

not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed.

Cir. 1993).

In addition, the examiner further directs appellant's attention to the excerpts of

Johnson's invention as shown in Fig. 2, wherein, there is only one primary key icon

shown in the relationship table (e.g., 202, Fig. 2, note: this deemed to be the nature of

primary key object, since any primary key object must be unique) and a plurality of

terminators (e.g., the units: 220, 222) associated with foreign key icon (e.g., 214, Fig2).

Thereby, Fig. 2 itself clearly indicates at least a one (i.e., the primary key icon) to many

relationships (i.e., the plurality of terminators correlated to the foreign key icon 214)

between the relationship table (e.g., 202, Fig. 2) and the hyperlinked tables via at least

the hyperlinked icons (e.g., col. 4, lines 10-19), as such, Johnson anticipates the

claimed "multiple but exclusive relationships between tables in the relational database".

Furthermore, Johnson clearly disclosed:
*"Clicking on menu icon 226 causes display of a pop-up menu containing all child
tables which depend from displayed table 202. Table 202 may include additional
columns, such as column 22[8] indicating the data type for each entity in the relational
database represented by the entity relationship diagram.* (col. 4, lines 4-9)

Moreover, the logical flow of Fig(s). 3A-C that comprises: displaying a data

dictionary (e.g., the step: 312, Fig. 3A) for a current table (e.g., the unit 314, Fig. 3B),

wherein, the data dictionary information includes repeatable displayed entity name, data

type information, and entity data dictionary information describing the business

processes from which each column or table in the entity relationship diagram comes for

the current table (e.g., the steps: 314-316, Fig. 3B). These Fig.(s) enforce a logical flow

for the displaying of selectable primary key icon, foreign key icon, constraint icon, menu

icon (e.g., the steps: 316-332, Fig. 3B) to be associated with a single current table (the

step: 314, Fig. 3B) and multiple child tables (the step 332, Fig. 3B). Here, an exclusive

relationship (or "one to many") within a single logical flow (i.e., the logical flow of steps:

A to B of Fig. 3B) by using at least a foreign key icon (e.g., 324, Fig. 3B) and an

attribute (e.g., the foreign key itself) is clearly shown in by Fig. 3B. Furthermore, the

other exclusive "many to many" relationship also embedded in these hyperlinked entity

diagram by using the repeatable logical flow loops as shown in Fig. (s) 3A-C. Thus, in

contrast to appellant's arguments, Jorgensen clearly disclosed "using a foreign key and

an attribute to provide a multiple but exclusive relationship".

Applicant's arguments of Section B are summarized as following:

1) "a type attribute is associated with records in a first table that identifies ones

of a plurality of second tables with which the record is associated" of claims 36, 40 and

45 is not addressed in the Final office action.

In reply to arguments 1), the examiner first points out that claims 36 and 45 are

intended method/computer product claims for the system claims 12, 14 and 40 that

were rejected under 35 U.S.C. § *102(b) in the final office action as shown on record and

cited above.*

Specifically, as discussed above Jorgensen clearly cited the claimed features in

Fig. 2 and associated texts which are excerpted and explained as following: "Clicking on

menu icon 226 causes display of a pop-up menu containing all child tables which

depend from displayed table 202. Table 202 may include additional columns, such as

column 22[8] indicating the data type for each entity in the relational database

represented by the entity relationship diagram." (e.g., col. 4, lines 4-9), thus, within Fig.

2, the claimed "a type attribute (e.g., the unit: 228, Fig. 2) is clearly associated with

records in a first table (e.g., the records: LOT_ID, LOT_TYPE, FACILITY ...in a first

recording table 202, Fig. 2) that identifies one of a plurality of second tables (e.g., via

the use of keys & constraints of Fig. 2) with which the record is associated.

2) "enforcing the multiple but exclusive relationship between records in the

second tables and the first table based on the type attribute associated with a record in

a first table" are not found in Jorgensen.

In reply to arguments 2), the examiner further points out Jorgensen clearly cited

the claimed features. For example, he stated:

"*Clicking on menu icon 226 causes display of a pop-up menu containing all child
tables which depend from displayed table 202.*" (col. 4, lines 4-9)

He further disclosed that the claimed features are associated with the checking of

parent table entity, constraint entity and entity parent for displaying corresponding

parent and child tables in the steps 324-332, Fig. 3B, wherein, the logical flow of these

steps clearly enforces a parent table to child tables exclusive relationship (i.e., one to

many) between records in a parent table and the second tables (e.g., the child tables at

332, Fig. 3B) by using the type attribute (e.g., the clickable icons) associated with a

record (e.g., the selected entity at 314, Fig. 3B) in a first table (e.g., the current table at

314, Fig. 3B). Therefore, based on the discussion above, in contrary to appellant's

arguments, Examiner concludes that features in claims 36, 40 and 45 are fully

anticipated by Jorgensen.

Applicant's arguments of Section C mainly is as following:

"Claims 15, 19, 27, 31 and 43 recite that the multiple but exclusive relationship is

enforced by a database trigger...There is no indication in the recited portion of

Jorgensen what function the trigger would perform, and in fact, there is not even a use

of a trigger but merely the display of information associated with a trigger".

In reply to the above arguments, the examiner points out that Jorgensen clearly

discloses the claimed selectively means of defining a database trigger (e.g., the trigger

Icon 342, Fig. 3C) that associated with an icon-typed constraint (e.g., the step 338, Fig.

3C) and icon-typed foreign key (e.g., the step 346, Fig. 3C) to enforce at least a partial

logical flow relationships of the claimed foreign key and the corresponding particular

one of the plurality of related tables (e.g., the steps: 348, 352, Fig. 3C) as shown by Fig.

3C. Thus, in contrary to appellant's arguments, the trigger icon as defined by

Jorgensen not only displays the information for the associated database tables, but also

enforces the relationships as recited in claims 15, 19, 27, 31 and 43.

Applicant's arguments of Section D mainly is as following:

"The recitations of Claims 16 and 18 regarding accessing the type table to

determine a type associated with a record in the relating table based on a value in the

record is neither disclosed nor suggested by the hyperlinks of Jorgensen".

In reply to the above arguments, the examiner points out that Jorgensen clearly

discloses the claimed features in Fig. 2 of his invention. For example, Jorgensen clearly

disclosed the claimed relating table (e.g., 202, Fig. 2) which comprises a data type

column (e.g., 228, Fig. 2) indicating the data type for each record in the relational

database based on a value represented by the entity relationship diagram (col. 4, lines

6-9).

Applicant's arguments of Section E mainly are: "appellant is not claiming new

properties of SQL but are claiming the use of database techniques to provide new

functionality."

In reply to these arguments for claims 17 and 19, the examiner points out

since appellant's arguments do not comply with 37 CFR 1.111(c) because they do not

clearly point out the patentable novelty which he or she thinks the claims present in view

of the state of the art disclosed by the references cited or the objections made. Further,

they do not show how the amendments avoid such references or objections. Moreover,

"The discovery of a previously unappreciated property of a prior art composition, or of a

scientific explanation for the prior art's functioning, does not render the old composition

patentably new to the discoverer." Atlas Powder Co. v. Ireco Inc., 190 F.3d 1342, 1347,

51 USPQ2d 1943, 1947 (Fed. Cir. 1999). Thus, the claiming of a new use, new function

or unknown property which is inherently present in the prior art does not necessarily

make the claim patentable. *In re Best*, 562 F.2d 1252, 1254, 195 USPQ 430, 433

(CCPA 1977)."

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

Susan Y Chen
Examiner
Art Unit 2161

Conferees

Mofiz, Apu
SPE – AU 2161

Lee, Eddie
Appeal Specialist

EDDIE C. LEE
SUPERVISORY PATENT EXAMINER